

# San Francisco Bay Conservation and Development Commission

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September 9, 2022

**TO:** All Commissioners and Alternates

**FROM:** Lawrence J. Goldzband, Executive Director (415/352-3653; [larry.goldzband@bcdc.ca.gov](mailto:larry.goldzband@bcdc.ca.gov))  
Peggy Atwell, Director, Administrative & Technology Services (415/352-3638; [peggy.atwell@bcdc.ca.gov](mailto:peggy.atwell@bcdc.ca.gov))

**SUBJECT: Approved Minutes of August 18, 2022 Hybrid Commission Meeting**

1. **Call to Order.** The hybrid meeting was called to order by Chair Wasserman at 1:01 p.m. The meeting was held with a principal physical location of 375 Beale Street, San Francisco, California, and online via Zoom and teleconference. Instructions for public participation were played.

Chair Wasserman stated: Good afternoon, all, and welcome to our hybrid BCDC Commission meeting. My name is Zack Wasserman and I am the Chair of BCDC.

Chair Wasserman gave instructions to Commissioners for responding to Roll Call. He asked Ms. Atwell to proceed with Agenda Item 2, Roll Call.

2. **Roll Call.** Present were: Chair Wasserman, Vice Chair Eisen, Commissioners Addiego, Ahn, Beach, Blake (left at 2:03 p.m.), Brown (represented by Alternate Gilmore), Burt (left at 1:58 p.m.), Butt, Eklund, Gorin, Gunther, Hasz, Lee (represented by Alternate Kishimoto), Lucchesi (represented by Alternate Pemberton), Moulton-Peters, Peskin, Pine, Ranchod, Randolph, Showalter, Sperling (represented by Alternate Vasquez) and Wagenknecht.

Chair Wasserman announced that a quorum was present.

Not present were Commissioners: Department of Finance (Almy), Department of Natural Resources (Eckerle), Department of Business Transportation & Housing (El-Tawansy), Contra Costa County (Gioia)

3. **Public Comment Period.** Chair Wasserman called for public comment on subjects that were not on the Agenda. He announced that Item 9 would not be heard. There are still issues to be resolved and the matter will be taken up at a later date.

I will start with those public speakers in our headquarters building and then move on to anybody participating virtually.

Matt Klein commented: Hi, Commissioners online and present. My name is Matt Klein. I am a resident at Oyster Cove Marina in South San Francisco. I had also written an email for comment earlier today.



We have about 34 live-aboard residents at Oyster Cove Marina. It is a 219 slip marina. All of these live-aboards are not realized as legal live-aboards. That was through some machinations that were done by the membership or the management over the past four years.

The Marina was bought by Kilroy Development, which has done a very large development on a 42-acre site in South San Francisco since 2018.

On June 15th we were given an impending eviction notice to be signed within 15 days to get free rent until the October 15th, which is a little less than 60 days from now, eviction date.

We have gone to several agencies in the City, South San Francisco, with the county of San Mateo, trying to get that date extended.

One thing that is holding us back is that there is a 10 percent legal live-aboard number for any marina and that is set down by the Bay Conservation Development District. We believe that that is a very unrealistic number and we have a crisis here. Our members, live-aboard numbers are retired many of them.

I myself kind of young, I am 60 years old. I have lived there for 17 years. I love it. That is where I want to live. But the fact is that we won't be allowed to transfer our live-aboard status to another marina.

Also, as I say, a lot of legal live-aboard status has been removed and moved around and many of those who were legal live-aboard at one time are no longer legal live-aboard on the books.

It is really necessary to increase that number of percentage of legal live-aboards in the marinas in the Bay Area. We are, in fact, beneficial to the marinas. We are not degrading marinas in any manner.

If we see somebody doing something negative, that's where we live. We ensure that, you know, authorities are called or that that's taken care of. Also, you know, we ensure the safety in the area just by being present.

It is very, very, very necessary. I implore you. Increase the number of legal live-aboards. It also has to do with low income, low impact housing. Thank you for hearing me, goodbye.

Mr. Kalavesh addressed the Commission: Thank you very much for allowing me to speak here. My name is Kalavesh. I have been a resident at Oyster Cove Marina for 16 years.

I am in the strange situation that I have a beautiful home which is my boat and I shall no longer be allowed to live on it because the Marina requires we do have a live-aboard status when I have to leave other marinas and there's just no way to get that live-aboard status because they are all maxed out at a 10 percent maximum.

At this point I would like to use your own words that you have as a mission statement on your last agenda and it says, to protect and enhance the San Francisco Bay and encourage the responsible and productive use of its resources for this and future generations.

Providing low-income housing for this generation is a productive use. We are not floating trash. If you are concerned about the environmental impact, the people that move from Oyster Cove, for instance, to Oyster Point, will create a sum-zero impact. The total amount of live-aboards will be the same.

But if you have more concerns, increase the restrictions and the control and the tools that you have, that we are able to stay there by verifying that we have a waste tank. That we don't spill our garbage into the Bay.

And we have a very small footprint. Our carbon footprint is a joke, except especially when you consider that many of us have solar panels and using less energy than a regular house.

So that's all I have to say. Thank you for your time.

Ms. Isabel spoke: Yes, thank you. I am Isabel. I live at Oyster Point Marina. I have also been a resident for 16 years.

As was mentioned before, through finagling I lost my official live-aboard status and I have the paperwork to prove that I am one if that is necessary.

I also wanted to ask if the 10 percent could be expanded. If not, I understand that there is a process involved and it may take time, et cetera. But right now we are in a dire emergency situation and we were hoping for maybe a pilot program or something at least temporary to get us through the winter.

Because a lot of people, I am senior. I am disabled. I do not really have any options other than living on my little 30 footer.

The only other thing I can see happening if I don't get any help is I will have to anchor-out. I am not the only one. There are at least from a dozen to 20 people who are talking about we are going to have to anchor-out. There is no other option for us here in the Bay Area. And these are, these are people, elderly people, veterans, disabled like me.

I don't know if you have seen the results of people anchoring out in the last three or so years. There have been five boats on the rocks around our little part of the Bay. There have been fuel tanks that have been hit. There has been fuel all over the water. It's been a very unsightly thing.

They have been on the rocks for months before they were removed. But we are in a very sandy part so anchoring in the sand, with especially the winds getting worse pretty much daily with everything they build, the tunnel is funneling the wind tunnel from having a few hours of wind a day a couple years ago, now it is almost 24/7 gales.

So I don't see how we are going to be able to get through the winter safely if we don't have a place to dock our boats.

And because ownership is apparently not budging and not willing to give us those few months to at least get through the winter and find real solutions we are imploring you to help us because there is plenty of space in Oyster Point, for instance. There is also space in Brisbane, which is the only one that I know of that has any kind of option to apply for live-aboard only after six months and then it is not a given that you are going to be accepted.

So we are desperate and, you know, time is ticking and the weather is going to be foul and I really don't want to, I would rather stay on my boat than live on the street. Let's put it that way, even if I have to anchor-out. But it is dangerous, not just for me, but for the environment. Thank you.

Chair Wasserman acknowledged: Thank you, ma'am.

Peggy, do we have any other public speakers virtually?

Ms. Atwell replied: Yes, Chair, we have nine public speakers here.

Chair Wasserman asked: Do you know whether any of them are on this same issue?

Ms. Atwell answered: I do not know.

Chair Wasserman stated: I am going to make a comment but then I am going to ask Peggy to call on the other speakers. We are certainly sympathetic to your plight. Because this is not agendized we cannot really respond to you. However, before we leave public comment I am going to recognize Supervisor David Pine and I think he will have a relevant request. Let's go with the other speakers.

Tommaso Boggia was recognized: Thank you so much. Hi, my name is Tommaso Boggia; I am a live-aboard resident in Jack London Marina. I am speaking today to give you a heads-up that you might be, you will be receiving a proposal from TIDA, the Treasure Island development Authority, regarding creating a swimming zone in Clipper Cove in Treasure Island.

Clipper Cove is a unique anchorage in our coast. It is the most safe anchorage around here. It is essential for public access of the Bay to cruisers, to people who sail through around here because it is so protected.

And putting a swimming zone there. First of all, there have not been, as far as I know, issues of swimmers conflicting with boats over there. So it seems to be solving a problem that doesn't exist. And secondly, it would actually block public access to the Bay to cruisers and block one of the best anchorages in the Bay, actually the best anchorage in the Bay.

So I am calling to just give you a heads up that that is going to be happening and on your radar and that TIDA has not reached out to the boating community at all in making that proposal.

And I know in your in your environmental justice discussions you have talked about prioritizing reaching out to impacted communities. The recreational boating community is the community that is impacted by this proposal by TIDA and we have not been reached out to. So if it does come to you, please reach out to boating communities; we would love to tell you our thoughts on that.

And I also stand in solidarity with our friends from Oyster Point. The live-aboard limit is based on 1970s understanding of how recreation happens in the Bay.

It is absolutely impossible for a middle class person to own a boat without living on it in the Bay because of the housing market here. And I recognize that BCD's like reason for being is prevent infill and housing on the Bay and that is a complicated issue. But if you want to, if you want access to people of all incomes to the Bay you need to allow for live-aboards. We could not have our boat lifestyle without living on it. Thank you so much.

Jason Dury commented: My name is Jason Dury. I am a 53 year old father of two children aged 3 and 6 and learned to sail here in the San Francisco Bay about 15 years ago.

I recently read a transcript from the Treasure Island Development Authority. This is to speak what Tommaso was talking about, also known as TIDA. A meeting where it appears they are planning to request a permit for you to allow them to change the rules and design of the anchorage beach area at Clipper Cove.

I have been a member off and on of Cal Sail in Berkeley where I originally learned to sail. I am a current owner of a sailboat for over 10 years. Keep it at Safe Harbor Marina, formerly known as Emeryville Marina. I have sailed with, anchored with and met over 1,000 boat owners and sailors in this Bay.

Any change to that anchorage at Clipper Cove affects all boat owners in the San Francisco Bay not just, not just the club or marina at Treasure Island.

Clipper Cove due to its unique physical features offers hands down the best and safest day sail destination in the Bay for those with young passengers like myself and novice sailors and the best place to learn anchoring skills.

When TIDA does submit their permit to you I ask the BCDC to make sure that the public comment has been solicited from at least to the following entities. I suggest Berkeley Yacht Club, Cal Sail Yacht Club, Cal Adventures, Safe Harbor Marina Emeryville, Emery Cove, Berkeley Marina, Richmond Marina, before moving forward with any proposal to impact boaters using Clipper Cove.

I have already reached out to Octavia, the general manager over at Safe Harbor where I am at and informed her of this coming proposal from TIDA and they too agree that this is a very popular destination for boat owners at our marina here. I have a group of people willing to help solicit those comments from the above entities when TIDA submits their request for you.

So thanks for the time and please try to keep us in the loop when TIDA engages you.

Gale Schulke spoke: My name is Gail Schulke. I know that you have heard from several of us already. I am a resident at Oyster Cove Marina. My husband and I do have legal live-aboard status but that's not relevant to the situation.

We are retired. We own two boats. Neither one of them is a derelict boat. The boats in this harbor have been reviewed by the harbormaster annually for several years so every boat here is safe, does not dump waste into the Marina and has adequate facilities and good electrical connections. So what I am trying to say is that we are not like the boats in Richardson Bay.

I also am encouraging you to help us. Let us at least if nothing, if you can't help us extend our time here at Oyster Cove let us move to Oyster Point or Pillar Point, which are the San Mateo Harbor District marinas so that we have some place to go and just transfer our live-aboard status with us.

The 10 percent is just an arbitrary figure, as somebody else mentioned, that was based back in the '70s. But with the intense shortage of housing available now it just seems appropriate to increase that limit so that people who have nice boats, who do want to live on their boats, can.

My husband and I relocated here 20 years ago and have lived in this Marina for that amount of time as we were both employed here in the Bay Area. I am a registered nurse. My husband was a database architect. And we are retired now. We are on Social Security so are limited income.

We have looked for a live-aboard slip all the way up to Seattle, Washington. There is nothing available. There are no live-aboard slips available. We have been on lists for seven years. Yes, seven years to relocate. We kind of saw that this was happening and so we are on the list at Oyster Point. We are on the list at Pillar Point. We are on the list just about every place you could imagine and we have been there for years. And we have not moved on the lists at all because nobody is taking new live-aboards.

I think that it is time for the BCDC to relook at this. You changed the limit for Sausalito to accommodate the boats that were anchoring out in Richardson Bay. I think it is reasonable and fair that you do the same for us. Thank you.

Sharron Harper addressed the Commission: Hi there. My name is Sharron Harper. Thank you for our being able to be here at this meeting.

I am basically here in support of what the other folks who have come here have said. You know, the 10 percent being such an arbitrary number. It feels as though, you know, with the changes that have been going on in our world and our society and the cost of housing here in the City that that number, it seems almost has to increase that percentage because there are just not the kind of affordable housing that you can just go off and rent.

If you already have a boat that you have been living on for years, for a number of years in my case as well I am at about 15 or 16 years living on my boat here in this Marina at Oyster Cove. And now as a retiree I am faced with a lot of decisions that aren't good ones.

So again, trying to find a place to be that can give a live-aboard status right away is almost impossible. Many of the marinas, even if you are able to apply for a live-aboard, if they have any left they want you to wait six months before you can even be there. That means, where would you be? Where do you stay? So there are a lot of issues there. But one is, more slips need to be available at the various marinas. And I am in full support of the folks who have been talking about that issue here at this meeting. Thank you.

Thomas Abbott was recognized: My name is Thomas Abbott and I am here to speak about the proposal to limit access to the beach at Clipper Cove as has been proposed by TIDA.

Some of the other aspects of that proposal we understand is being at least floated for some input, although not from boaters because they probably know we are not going to like it, is banning boats from the shallow part of the anchorage next to the beach, which is a sheltered area. That's the preferred area to get out of the wind for anchoring.

Then there is also the third aspect of my comments are that there is a proposal coming to dredge a new channel. Which needs to be done, absolutely. But we would like to suggest that you consider like it follow the existing channel rather than like cutting open the marine life sanctuary side of it or even going right down the middle, which will just ruin the existing anchorages.

So we think, anyway. So I know we understand. So there you go. So I think you are going to hear about permits coming to make these changes or requests for permits and we would just like to say that we have opinions on this.

Again, I am a sailing instructor. I work for two sailing schools, one in Clipper Cove and one that actually shares space in Clipper Cove and Emeryville called Sail Time and another one called After Guard which is based in Oakland. And there's a real surge of new boaters, all kinds of people coming into it as an activity. They want to learn. I am taking them. When I, when I, more than half of my students I take to Clipper Cove for anchoring training, right, how to anchor. So it is an incredible resource. People love it. There you go. I think our three minutes is up. Thank you.

Val Hammel commented: This is Val Hammel. I am a live-aboard at Union Point Marina in Oakland. And I was, my neighbors and I were pretty strongly involved with the plan that was created to close the homeless encampment that was here in our parking lot and in the park.

As I recall, there was a very strong commitment to maintain the closure because over the last decade or so we have seen the camp come and go and come and go. And what we were told is that our job was going to be to report immediately any tents, any new tents that went up and any new encampments and I have been doing that and my neighbors have been doing that. And what I am hearing from the BCDC Enforcement Committee is we are telling we have passed on your reports to the appropriate people in Oakland.

And nothing has been done. We have now multiple tents. They've been growing for the last several weeks. I have reported it a number of times. Nothing is being done. The situation is getting. I just can't believe that we have been through all that we have been through, that the BCDC and the city of Oakland has gone through all this, just to allow it to happen again.

In the end the responsibility rests with BCDC because you have the power to fine the city of Oakland for each day that they are out of compliance. And they are out of compliance and I beg you to please start enforcing this.

We also have a very lawless situation happening with the anchor-outs in between the bridge to Coast Guard Island and Union Point. They are directly upwind from the Marina. As you have heard many times when they are, when the boats in heavy winds, when their anchors pull out their boats slam into our Marina. We recently had like an 80 or 100 foot vessel leave one of the end ties where it has been rotting for the last 80 years and instead of taking this boat up the Delta like they were supposed to the person just moved it and it has now joined the anchor-out community. And if that boat pulls its anchor it is going to destroy sections of the dock and it is going to destroy our boats.

Why this anchor-out community needs to be directly upwind of the Marina where it threatens us and it is a constant problem? We are having, I have multiple times reported raw sewage dumps happening. I am told by the Coast Guard that there is nothing they could do. I am told by the city of Oakland there is nothing they can do. There are people coming and going, hitting our boats in their dinghies, rowing around and into the Marina and trespassing daily. I am woken up in the middle of the night. We have generators running. We have people fighting out there. It is totally out of control. Thank you.

Lucia Lachmayr spoke: Thank you so much for hearing us. My name is Lucia Lachmayr. I am a local teacher. I did used to live, have a live-aboard slip at Oyster Cove Marina, now it is just a regular boat as I realized how precious the live-aboard slips were and I did not need it as much as my neighbors did. So that was something that I would have continued being a live-aboard had it been easier to do.

As you know, we received an eviction notice from Kilroy Realty Group and the management Tideline Marine Group has sent forward our emails and we have emailed, sent letters, we hired an attorney to send letters to Kilroy Realty and we have heard nothing.

And so just to reiterate the point made by previous commenters, the impact of our eviction is that we are going to have several people going off on anchor-out and that is terrible. As the previous commenter noted, that it is a terrible solution. It is no solution at all. It is going to upend our lives in a bad way. But those are our homes. And most of us that live at Oyster Cove Marina skew 60, 70-plus. Two of my immediate neighbors, one is almost 80, the other one is 82, one across the dock is 75. So it is very much a lot of elders, a lot of disabled and many veterans that live there.

So I just want to kind of give some reasons why I think that you should consider upping the percentage of live-aboard slips overall.

I think we offer great security for the local marinas. We are present. We can take care of things. We can alert authorities in case of an emergency. We add to the quality of life on the docks and a liveliness to the area in and around the harbor.

Look at all the European cities who have thriving live-aboard communities and they are far more than 10 percent of the boats that are out there.

The key to good live-aboards is good, well-maintained boats with good management and we have had excellent management. Our harbormasters have kept our marinas neat, clean, safe for years. So management is the key.

All of our boats, as somebody else mentioned, have passed yearly, multipoint inspections. This has been going on for at least four years, four to five years.

Finally, around the world, international maritime organizations and recreational boating organizations generally agree that the optimal live-aboard number is 15 to 20 percent within a marina. And this is sent to me according to the president of the marine recreation, former president of the Marine Recreation Association, Mark Sanders.

And I just, I would hope that you would consider raising the level. It is the number that it's time. It's fair. It's humane. Please consider it. Thank you.

Chair Wasserman chimed in: Before we conclude this item I would recognize Supervisor Pine.

Commissioner Pine commented: Thank you, Chair Wasserman. At today's meeting and I believe at the last we have heard quite a bit of public testimony during public comment on the challenges facing the live-aboards at Oyster Cove in South San Francisco.



And I know we cannot get into the substance of the matter at this time. But given the urgency of the situation I would like to request that we do agendize a discussion of what possibilities we might extend to those residents and have a discussion at our next meeting concerning the matter.

Chair Wasserman acknowledged: Thank you. I will direct staff to agendize that for our next meeting.

Commissioner Pine replied: Thank you.

Chair Wasserman moved to Approval of the Minutes.

**4. Approval of Minutes of the June 30, 2022 and July 7, 2022 Meetings.** Chair Wasserman asked for a motion and a second to adopt the minutes of June 30, 2022 and July 7, 2022.

**MOTION:** Commissioner Addiego moved approval of the Minutes, seconded by Vice Chair Eisen.

The motion carried by a voice vote with no opposition and Commissioner Moulton-Peters voting "Abstain."

**5. Report of the Chair.** Chair Wasserman reported on the following: I would like to start by introducing a new Commissioner who was sworn in just before our meeting started. We have Commissioner Ellen Blake from the federal EPA. We welcome you and give you an opportunity to make any remarks if you would like to do so.

Commissioner Blake commented: Thanks for the quick introduction. I am very pleased to be joining the Commission. I look forward to working with you all.

I have been at EPA just about 20 years and within my group are all of the surface water regulatory programs for EPA Region 9 which covers all of California, Arizona, Hawaii, Nevada and all of the Pacific Island Territory.

I look forward to learning more about the Commission and working with all of you. Thank you.

Chair Wasserman acknowledged: Thank you very much. I have a couple of things to report on.

We did have a second meeting our Strategic Plan Working Group and the group was joined by several other Commissioners who are interested in the area.

We had a lively discussion. We face some challenges with this Strategic Plan. It is different than those we have done for a couple of reasons.

One of them is that we now have a significantly larger and clearer responsibility regarding rising sea level. We have adopted the Bay Adapt Platform and that needs to be woven into the Strategic Plan.

In addition, we amended our Bay Plan to include issues of environmental justice and social equity and those too need to be woven into.

Each of those have their separate threads and there is a separate plan being developed for DEI and social equity and environmental justice. But they need to become part of the Strategic Plan.

In addition, the issues of rising sea level bring into questions of the scope, the extent of our jurisdiction and authority. What leadership in this area means.

So these are going to be interesting discussions, challenging discussions in some ways. And both the discussions and the adoptions of this Strategic Plan are going to be very important actions.

We will keep you updated.

One other item hot off the press. We have a report from the State Lands Commission on proactively planning for sea level rise focusing on impacts on public trust lands.

And I want to quote a couple of sentences from this report which I have not read all of its 66 pages but have scanned through it. It starts off saying that California's state lands are at risk from sea level rise and will **only** exist for future generations to use and enjoy if actions are taken now to adapt.

Sea level rise is one of the most consequential issues of our time and a challenge unlike any we have ever known.

The report shows the damages statewide and I think it is low frankly; talk about replacement costs for vulnerable assets that could top 19 billion dollars by 2100.

And natural resources and recreational amenities could lose over 5 billion dollars in value.

And then it says, "sea level rise will be the most consequential impact of the climate change crisis to California's coast. And that includes the Bay.

We know this. This is not news to us. But it is important that it is getting out there that it is being recognized and it is being emphasized.

So our efforts continue to be extremely important and continuing to be difficult as we try to coordinate legislation, jurisdictions, science in a matter that is timely enough that in fact we can do, can set the basis for and we can actually do what we need to do to adapt and help the local jurisdictions do what they need to do to adapt.

Commissioner Gunther was recognized: We have been advised previously that the staff had obtained a wetlands program development grant for studying new sediment management policies. I just wanted to let Commissioners know that I had a chance to review the scope of work for the grant and I am very enthused about this. I think the staff did a spectacular job of integrating a lot of the key issues facing us and the incredible opportunity that we have to change some of our sediment management practices and policies so that we can better build resilience along the shore in the face of sea level rise.

So I would encourage others to take a look if you are interested in these issues as am I. Thank you.

a. **Next BCDC Meeting.** We will not need to hold a meeting in two weeks – on September 1st. Therefore, our next Commission meeting is scheduled for September 15th. At that meeting we may:

- (1) Hold a closed session regarding possible litigation;
- (2) Hear a briefing on the alternative energy permit exclusions in the state budget;
- (3) Hear an enforcement briefing; and,
- (4) Hear a briefing on an in-Bay pilot project for marshes.

I will not be at that meeting because I will be on my way to a safari in Africa. Vice Chair Eisen will chair that meeting.

b. **Ex Parte Communications.** Is there anyone who wishes to make a report on an ex parte communication?

Commissioner Beach reported the following: I have had conversations on Item 8 with the Port of Oakland. These have come up not in recent contacts but just to discuss the fact that the Port and BCDC are involved in the sediment agreement and to confirm some of the Port and Army Corps assumptions regarding who is responsible for what relative to Middle Harbor Shoreline Park and I will be abstaining from the vote.

Chair Wasserman (laughing): Thank you Commissioner Beach (continued laughter). Any other reports? (No other reports were voiced)

Executive Director Larry Goldzband will now present the Executive Director's report.

6. **Report of the Executive Director.** Executive Director Goldzband reported: Thank you, Chair Wasserman.

August 18th is a very auspicious day in American history and not just because today is Robert Redford's 86th birthday. On this date in 1920, the state of Tennessee became the 36th and final state to ratify the 19th Amendment to the United States Constitution that legalized women's suffrage, albeit by a one-vote margin the state's House of Representatives.

Forty-three years later, James Meredith became the first Black American to graduate from the University of Mississippi on August 18, 1963.

While neither of these events has a direct link to BCDC, I would argue that expanding the Nation's lenses through which it views itself and its resulting state of constant change is perhaps America's greatest quality. Certainly, the rise of the environmental movement and, now, the environmental justice movement, is a shining example of that characteristic.

a. **Budget And Staffing.** With regard to our budget, we have one piece of good news. The combined forces of BCDC and the Coastal Commission were able to convince the state to provide our coastal program analysts with significant salary increases beginning this July. While this is very good news for our team, our state employees continue to be paid significantly less than their counterparts in local governments – a major cause of staff turnover.

In any case, we want to thank the Newsom Administration, and we hope that this can provide an impetus for CalHR and the Administration take seriously the need to institute a geographically-related salary structure and a holistic review of the state salary structure.

Today you will hear from our four undergraduate summer interns. And, today, I want to let you know that we plan to take on an autumnal legal intern. Camille Piazza will be a third year student at U.C. Hastings having graduated from Portland's Reed College with a degree in English Literature. She has expressed a desire to learn more about environmental, tribal, and land use law, so we are sure that both she and we will benefit from her work with us – so long as the Commission agrees.

b. **Policy Issues.** Some good news to report! Two weeks ago, the Office of Administrative Law approved the final set of amendments to BCDC's regulations. Remember, this last set was originally the first set of regulatory changes that the Commission approved back when Moses was in short pants.

These amendments cover our administrative and procedural requirements, permitting, and planning matters. They will become effective on October 1st. We'll make sure that you get clean copies of all the new regulations.

Earlier this month our staff worked with the Coastal Conservancy and other organizations to organize a letter signed by the Bay Area Congressional delegation and our U.S. Senators to the Army Corps of Engineers. It requests the Corps to implement the Resilient San Francisco Bay Project by providing dredged materials at specific restoration sites. In addition, we were pleased to have a discussion directly with a member of the staff of the Assistant Secretary of the Army to ensure that the highest levels of the Corps understand the issue. We look forward to updating you and the letter is now posted on our website.

And, speaking of the beneficial reuse of dredged sediment, Brenda Goeden is taking part as we speak in a site visit at Hamilton Wetlands with a member of Senator Padilla's staff and Representative Jared Huffman.

Finally, two very important details for you as Commissioners. First, beginning next week we will send all Commissioners and Alternates a package of documents that need to be completed so that BCDC can directly deposit meeting per diem payments. Please be on the lookout.

And, we shall have a closed session on your agenda on September 15th. To do this – and get ready – you will receive two Zoom links from BCDC. Not one, but two. The first will be the "normal" Commission meeting link with which you are familiar. The second link will be embedded in an Outlook invitation.

To enter the closed session, which will be the last agenda item of the day, you will actually leave the Commission meeting and click on the link to the closed session that will be in your second invitation. Afterward, you will leave the closed session and click on the same original ZOOM link that you used to enter the Commission meeting and come back to the Commission meeting. Of course, this only applies to those of you who decide not to attend the September 15th meeting in person.

We will provide even more, better and detailed instructions as we move forward in whatever form you would like.

That concludes my report, Chair Wasserman, and I am happy to answer any questions.

Chair Wasserman asked: Are there any questions for the Executive Director? (No questions were voiced)

7. **Consideration of Administrative Matters.** Chair Wasserman stated: That brings us to Item 7, Consideration of Administrative Matters. We are pulling one of the matters.

Bay Resources Program Manager Anniken Lydon stated: I can mention it. The one that is being pulled is BCDC Permit Application Number N2021.033.00.

Chair Wasserman acknowledged: Thank you. That will come back to us.

8. **Public Hearing and Vote on a Settlement Agreement between the Port of Oakland and BCDC (BCDC Enforcement Case ER2019.026.00).** Chair Wasserman stated: That brings us to Item 8, which is a public hearing and vote on a proposed Settlement Agreement between BCDC and the Port of Oakland, Enforcement Case ER2019.026.00, regarding the Middle Harbor Shoreline Park Enforcement Case.

I ask that any persons here to speak on this matter from the Port to identify yourselves by name and identify your affiliation with the Port for the record. This would be virtual because there is nobody in the room.

Executive Director Goldzband asked: No hands up, Peggy?

Chair Wasserman stated: It is hard for me to believe that nobody from the Port of Oakland is present.

Ms. Fobian interjected: I could introduce myself. My name is Catrina Fobian; I am a Deputy Port Attorney here on behalf of the Port of Oakland.

Chair Wasserman acknowledged: Thank you very much.

Mr. Sinkoff chimed in: Richard Sinkoff. Chair Wasserman, I was just promoted, I guess; nice to be promoted as a Panelist. Richard Sinkoff, Director of Environmental Programs and Planning, Port of Oakland, and delighted to be here.

Chair Wasserman stated: Welcome to the full panel, Richard.

Mr. Sinkoff acknowledged: Thank you.

Chair Wasserman continued: BCDC Enforcement Staff and the Port will each be provided a total of no more than 15 minutes to make a statement on this matter. The Port will present after the staff's presentation.

After all of those presentations have been given the public comment period will be opened. Public comments will be limited to three minutes per person. After the public comment period has been closed the floor will be open to members of the Commission to ask follow-up questions of BCDC staff and the Port and deliberate on the matter.

All speakers must limit their presentations and comments to the evidence already made as part of the enforcement record which has been published online with this meeting's agenda and/or to the policy implications of such evidence. We will not allow the presentation of any oral testimony for new facts or new issues.

Before Lead Enforcement Attorney Brent Plater gives his presentation I invite Commissioner Gilmore, the Chair of the Enforcement Committee to provide a brief summary of the Committee's hearing on this matter that took place on July 14, 2022. Chair Gilmore, the floor is yours, the virtual floor of course.

Commissioner Gilmore presented the following: Thank you, Chair Wasserman. As you stated, on July 14, 2022, the Enforcement Committee held a hearing and a vote on staff's recommendation to approve a settlement agreement between BCDC and the Port of Oakland resolving Enforcement Case ER2019.026.00 concerning the Middle Harbor Shoreline Park in Oakland. Port representatives did not attend this hearing. But after hearing presentations and comments by Enforcement Attorney Brent Plater, the Enforcement Committee voted to adopt the staff's recommendation as the Enforcement Committee's Recommendation to the full Commission.

Under the terms of the Agreement the Port will develop and submit to BCDC staff for review a draft updated Master Plan and a draft updated Management Plan for the Park by December 31, 2022. By May 1, 2023, the Port shall submit an application to amend an existing BCDC permit to make it consistent with these updates.

Further, the Port commits to permanently maintain or cause to be maintained the Park at its expense and agrees that any failure to maintain the Park and its amenities consistent with the standards and timeframes set forth in the Middle Harbor Shoreline Park Permit shall constitute a breach of the Permit and the Settlement Agreement and may subject the Port to new enforcement actions by BCDC.

If the Port holds or authorizes any special events at the Park, the Port must submit a special events plan for review and prior approval by BCDC no later than 45 days prior to the start date of the event. Immediately following the completion of any special event, the Port shall clean up the site and correct any damage to the public access area and all associated public access improvements within three calendar days.

Finally, the Port will pay a \$180,000 fine to the Bay Fill Cleanup and Abatement Fund within 30 days after the execution of this agreement.

The Commission may vote to approve the Settlement Agreement with or without modification or it may approve it in part or reject it in full. So at this time, I would like Mr. Plater to make his presentation.

Lead Enforcement Attorney Brent Plater addressed the Commission: Thank you, Commissioner Gilmore. Good afternoon, Commissioners. I would like to start by sharing my screen to give you an overview of the location of Middle Harbor Shoreline Park for those of you who have not had a chance to visit it before or do not know exactly where it is. So if you can see my screen now I have an overview of San Francisco Bay using Google Earth and I will just zoom in here to the Middle Harbor Shoreline Park area, which you can see to your right as you are heading east along the Bay Bridge.

This here is Middle Harbor Shoreline Park. Middle Harbor Shoreline Park was authorized and required by BCDC as part of an expansion project the Port implemented in 2000.

Subsequent to that the Park came into disarray. A number of violations were identified at Middle Harbor Shoreline Park that BCDC staff worked with the Port to try and resolve through 2018 when there were nine remaining violations that still had not been addressed, some of them quite significant, including a failure to repair, for over a decade, an elevator right

here near the Mole area of Middle Harbor Shoreline Park; problems with the maintenance of a beach that was required to be placed in this park overview; landscaping was not being maintained properly; and a failure to implement the overall Management Plan that required certain Phase III developments to be provided for the public; bicycle access; many other issues.

After these nine violations were identified some intensive negotiations were initiated by my predecessors here at BCDC. And those continued after I was hired and I am now glad to let you know that we have reached an agreement to resolve all remaining violations through a two-step process.

The first step is to update a Management Plan and a Master Plan for Middle Harbor Shoreline Park through a Design Review Board process and have that submitted for BCDC's final review and approval by the end of the year.

After that occurs a new permit will be submitted by the Port to redevelop, consistent with those plans, the entirety of Middle Harbor Shoreline Park and some of its connection with the adjacent Port View Park that the Port also maintains. That is going to occur in May of 2023, according to the Agreement.

There is a possibility for some time extensions to occur. We held a Design Review Board hearing on some of the proposals to revise the Park just recently and there is an expectation that another will occur in October. And for every additional round of DRB review that is required after September the deadlines can be extended by 60 days. But there will be no further time extensions permitted through the Settlement Agreement; only if additional review is required by BCDC then some of those deadlines may be pushed.

In addition to those substantive matters to help resolve this case, the Port has also agreed to pay \$180,000 in civil administrative liability. This is a slight reduction from the maximum that BCDC presumed it could obtain in a contested matter: \$230,000. Due to the costs and risks of taking it to a contested proceeding, staff believed it was valuable for the state to accept the settlement agreement at this payment amount and the Committee has now made that recommendation to the full Commission as well.

That is all I have to say about the Agreement but I am happy to turn it over to the Port's representatives if they have anything else to say and, of course, answer any questions the Commissioners may have about the Agreement.

Commissioner Gilmore continued: Thank you, Brent. I am going to invite the Port of Oakland's representatives to present, although I am not clear on which one of you would like to go first.

Ms. Fobian spoke: I will do the talking, I think, primarily. This is Catrina Fobian, the Deputy Port Attorney who actually since being hired by the Port in 2019 has worked on this matter on behalf of the Port of Oakland.

The Port is in support of this proposed Settlement Agreement. As Brent accurately pointed out, working both with Karen Donovan and he I feel like we have come to a resolution that makes both parties in a position to get a little bit of what they want and need here.

I know that the Port is working hard to comply with the terms ongoing and as Brent pointed out, hopefully, we will not need to push back any of those dates that are outlined in the Settlement Agreement.

So with that there is nothing much more that the Port of Oakland I think needs to add on this matter.

Commissioner Gilmore acknowledged: Thank you very much.

Chair Wasserman, would you please open the public comment period.

Chair Wasserman announced: The public comment period is open. Peggy, do we have any public comments?

Ms. Atwell replied: We do have public comments.

Mr. David Lewis was recognized: Thanks. This is David Lewis, the Executive Director at Save the Bay. I want to appreciate the work by the staff and the Committee on the Settlement and especially Brent Plater with whom I have had several discussions about this.

I do want to underscore for the Commission that this is before you because Save the Bay brought evidence of these extensive and repeated permit violations to BCDC's attention several years ago; and that was because several members of the public brought it to our attention.

This enforcement action has taken far too long, especially since the Port of Oakland has so much business before BCDC. Rapid enforcement of egregious violations should be a priority for the Commission also because it sends a signal to other permittees that BCDC will assertively protect required public access and amenities.

A big flaw with this Settlement is that it does not actually require or guarantee the repair and restoration of the Park amenities that were promised to the public and the Bay access that was promised to the public that the public has been deprived of for years. The Settlement does kick those fixes down the road to some unspecified future date because as Commissioner Gilmore explained, it requires the Port to provide plans to BCDC by the end of the year, including a Park Management Plan update. But no deadlines for the implementation of details in that plan because there are no details yet that have been provided by the Port.

There will supposedly be an application from the Port to amend the BCDC permit with those details and then you will be in the position of trying to enforce them, but it will still be on you to insist the Port do that work. An upshot is there is no assurance of the public getting what it deserves and what is required.

I think the Port's violations over an extended period of time demonstrate what we already knew. It is not a park management agency and this settlement really would not give BCDC assurance that the Port can and will manage this park. I recognize that is what you are trying to do in this settlement but we have no indication that the Port will get the East Bay Regional Park District or some other agency that is actually qualified to manage and maintain a park, take over management of it. So you are going to be in a position of trying to force them to pay a park district to do that and that is an unfortunate position to be in.

I also want to say the Settlement underscores that the cap on penalties that BCDC can assess for any one violation is too low and it has a perverse effect of rewarding violators for delaying compliance and resisting settlement of violations. I don't know if that is what happened in this case because we were not privy to those details but it seems likely.



The public is not really being compensated for the loss of enjoyment of promised park benefits over an extended period of time because the penalties maxed out long ago. So we really want you to ask the governor and the legislature to lift this cap so that the prospect of mounting penalties contributes to enforcement and compliance; Save the Bay would really support that.

In conclusion, obviously, we do not want to delay enforcement and repair of the Shoreline Park. We have been pushing you for years to require it and to require the Port to provide it. And we have long supported stronger enforcement by BCDC of its permits. But we cannot recommend approval of the Settlement as is with the shortcomings that I have noted. Thanks very much.

Ms. Atwell stated: Thank you. Chair Wasserman, there are no more public speakers.

Chair Wasserman asked: Do any Commissioners have questions for our staff or the Port staff, or Commissioner Gilmore for that matter? I see no hands.

Commissioner Gilmore, would you like to move the Enforcement Recommendation?

Commissioner Gilmore stated: Thank you, Chair Wasserman, I would. But before we do that, Brent, can you please restate the Recommendation?

Mr. Plater read the Recommendation into the record: I will. The Recommendation is to authorize the Executive Director to enter the proposed Settlement Agreement with the Port to resolve ER2019.026.00, which involves several violations at Middle Harbor Shoreline Park.

Commissioner Gilmore acknowledged and moved the item: Thank you. I will happily move staff's Recommendation.

**MOTION:** Commissioner Gilmore moved approval of the Staff Recommendation, seconded by Commissioner Wagenknecht.

**VOTE:** The motion carried with a vote of 20-0-1 with Commissioners Addiego, Ahn, Butt, Eklund, Gorin, Gunther, Hasz, Moulton-Peters, Peskin, Pine, Ranchod, Randolph, Showalter, Wagenknecht, Gilmore, Kishimoto, Pemberton, Vasquez, Vice Chair Eisen and Chair Wasserman voting, "YES", no "NO" votes, and Commissioner Beach voting "ABSTAIN".

Chair Wasserman added: I would just like the record to reflect that when I smile at Commissioner Beach's abstentions it is not at her personally, it is that is her agency's position on these matters.

Commissioner Beach acknowledged: Thank you.

Chair Wasserman stated: The motion passes, thank you. Thank you for all of your effort. And I thank you for the effort that will have to continue to be made. I don't share David Lewis's pessimism but I share his concern that more effort is required.

**9. Public Hearing and Vote on Proposed Stipulated Cease and Desist Order and Civil Penalty Order Number 2022.004.00 (BCDC Enforcement Case ER2020.021.00).** Item 9 was postponed until a future meeting.

**10. Briefing on Shallow Groundwater Rise and Contamination.** Chair Wasserman stated: That brings us to Item 10, a briefing on an issue that is of increasing importance and awareness and actually, hopefully expands the awareness of the critical nature of adapting to rising sea level, which is the effect of rising sea level on rising groundwater. Todd Hallenbeck will introduce the item and then Professor Kristina Hill, a BCDC fan favorite, will make the presentation.

GIS Mapping Specialist Hallenbeck addressed the Commission: Great. Thank you, Chair Wasserman and Commissioners. My name is Todd Hallenbeck and I serve as the GIS Mapping Specialist with BCDC. Today I am excited to introduce you to a briefing by Dr. Kristina Hill on the science and impacts of shallow groundwater rise on contaminated sites in the Bay Area.

The briefing continues a years-plus-long effort by BCDC to better understand, fill information gaps and plan for this emerging flood hazard, including recent participation in a workshop last week that unveiled new maps of shallow groundwater rise in four Bay Area counties and also initiated a discussion about considerations for the design of adaptation measures to this hazard.

Following this briefing, staff will be working on additional trainings for our staff about how to access recently completed data and maps and escalate the formal use of this information in our regulatory review of projects, particularly for project risk assessments.

It is my pleasure to introduce Dr. Hill, who is the Director of the Institute of Urban and Regional Development at UC Berkeley which has a long history of providing data for policy decisions in California. She studies climate changes and environmental conditions as a result of urbanization and climate change and develops urban design approaches, infrastructure and habitat conservation strategies that allow coastal regions to adapt to increased extent of frequency of flooding.

In her work she partners with local communities and government agencies and has made a priority to work with low-income communities and communities of color because they are often disproportionately impacted by sea level rise. Her current community partners are in the San Francisco Bay Area but she has worked internationally and on the East Coast.

I also want to mention that Dr. Hill serves on the State of California Sea Level Rise Task Force which just got started this week. I want to thank Dr. Hill for joining us today and I will turn it over to her.

Dr. Kristina Hill made the following presentation: Great, thank you; and thanks for inviting me to participate. (Presentation slides were made available) Great, thank you.

I should say I come to urban design and planning from geology so my work has kind of come full circle with this topic which is mostly an underground topic.

This initial slide here is a view of a maintenance hole in San Leandro where groundwater comes up through the maintenance hole at high astronomical tides, at King Tides. It is one of the most picturesque places to see what is coming.

We know that groundwater is going to rise with the sea level from talking to the Dutch. They have talked about this for probably 700-800 years and more recently in 2009 did a second plan for the city of Rotterdam where they pointed out that their flooding problem really will come from a combination of four directions: Local rain, river flooding coming from far away, a rise in sea level and a rise in groundwater. So this is what they are planning for.

And of course have been working with for a long time the invention of things like windmills. The purpose of them originally was to use wind power to pull water out of the soil and put it into canals, or to pump it along canals. So the picturesque Dutch landscape is very much connected to the high groundwater condition that they find themselves in.

I am talking about shallow groundwater today and that is different from the kind of groundwater that we usually talk about in California. Usually we are talking about groundwater as something deep that we use as a resource and that we do not have enough of. But I am talking about shallow groundwater which is when you dig down in the sand at the beach; that is shallow groundwater.

It is the water from rain or from rising sea levels and pressure from saltwater that exists between all the little particles of sand in the soil. The top of that zone, where all of the pockets between particles is filled with water is called the water table. It is the top of the saturated zone. Above that there is air between the sand particles.

This is the kind of image that the US Geological Survey uses to try to explain and I think it is really useful because it reminds us that water exists under all the land and that the seawater actually comes under the land, almost like it is sticking its toe under the freshwater. The salty water is that dotted section of the diagram. This is all very dynamic and flows towards the ocean. It rises and falls with the tides and it rises, of course, with mean sea level.

And we know that we are expecting to have to deal with some significant sea level rise over the next 30-80 years. At that California Sea Level Rise Task Force I was just hearing folks from the USGS saying that they feel two feet is baked in, was their phrase, by 2100. And that they are encouraging people to plan for a minimum of a foot by 2050, possibly two feet by 2050.

As you know, no one knows when this is all going to happen but I use this graph to represent the tables that were in that OPC report from 2018. I think it summarizes a little bit more succinctly some of the information in that table. But the point is that we are expecting at least two feet by 2100.

I use these cartoons to try to talk to people about what is happening. I use that blue color in the cartoon to represent that saltwater that goes under the land. As the sea level rises there will be more pressure on that blue water sticking under the land and that is how it is going to cause the freshwater to rise.

The two different colors of blue exist in equilibrium. So as the sea goes up, since groundwater flows to the sea, that means the groundwater will equilibrate or adjust to continue to flow downhill towards the ocean and that is why it will rise.

In this diagram, you can see that a lot of the action is going to happen underground first, where rising groundwater is going to create more pressure on underground sewer pipes, create more corrosion risks for underground pipes and settlement and displacement risks for underground pipes. It is also going to emerge first in creek beds and become part of creek flow, so we will see higher creek flows. That means less room in the creek for rain in an extreme rain event. And then it is also going to begin to interact with contaminated soils that we have capped in many places to try to prevent them from getting wet and moving around.

All of this shown in the cartoon is happening in spite of the fact that there is a levee, because all of this is happening in a big volume of soil well below the depth of a levee.

Eventually groundwater will emerge at the surface. But by the time we see it at the surface a lot has already happened underground. Pipe corrosion, changes to liquefaction risks, which I will talk about in just a second, eventually spot flooding.

But the potential for contamination to spread around, to be mobilized, happens when that groundwater table might be six, eight feet below the surface. So emergence is not really the point when the hazard occurs, it is well before that.

This image just shows a little GIF, it is not playing but that is fine, of water infiltrating a storm sewer. That infiltration occurs because the pipe is below the water table. It is submerged in the groundwater and the groundwater then takes up space in the pipe so that space is not available to convey sewage or to convey rainwater. The more our pipes fill with infiltration the less capacity they have to do the job they were designed to do. Unfortunately, that is already a situation in much of the Bay Area. So a rising water table will make infiltration pressures much worse.

This is a spot where we can already see groundwater coming up through our existing infrastructure. This is Veterans Court in Alameda on Bay Farm Island. This spot flooding occurs because at King Tides groundwater bubbles up through manholes on Veterans Court and create spot flooding. Just a few more inches or maybe a couple inches of higher tide would cause this puddle to take up the whole street. Because the street is flat and the land around it is fairly flat we could see big impacts with small changes.

I really want to emphasize that changes in groundwater are a kind of game of inches where when we are talking about sea level rise we are generally talking about a game defined in feet of how to adapt. Groundwater is something that can cause problems for us with just a few inches.

This is an example of liquefaction. Colleagues of mine in New Zealand took this photograph to show what happened when an earthquake occurred and the energy wave moved through wet, sandy soils next to a river in that city. This vehicle dropped into the ground. Because while the energy wave passed through, that wet, sandy soil behaved like a liquid. That is what liquefaction is. About 5,000 houses were damaged. As groundwater rises the risk of liquefaction can increase depending again on the type of soil. Artificial fill materials and wet, sandy soils are particularly vulnerable to this behavior. Of course, structures fail as well as vehicles dropping into the ground. The US Geological Survey, I should mention, has just done a paper on the Bay Area last year showing that our liquefaction risks are going to expand and that it is very place-specific. There were some places where we will see it increase a lot and some places where it will not increase at all.

This image is of Honolulu and it shows the Campbell Industrial Park on the shore not too far from the Disney Aulani Resort, if anyone knows that spot, which is up to the left above that little cove there. The state toxicologist in Hawaii has released a letter warning people about a phenomenon that is going on that they are already seeing related to groundwater.

And that is that if you look at these graphs, they are busy and confusing, but the blue line shows monthly mean tide levels and the red line shows concentrations of methane gas. Methane is produced when petroleum products that are in the soil there as contaminants from old spills. When petroleum products break down, which is a good thing, it is good that they are breaking down, but they release methane. They become methane, especially when they are submerged in seawater. That is the groundwater coming up that may be salty or may be fresh in their situation.

In the lower left graph you can see, if you look at the numbers, you do not have to, there is a peak in that lower left red line that goes above eight milligrams per liter, and that puts methane into the explosive range.

The state toxicologist is warning that if there are enclosed structures, sheds, conduits, electrical boxes in that area and a work-person causes a spark, that there could be an explosion that could cause loss of life and certainly damage to property. So they are warning us that as groundwater rises through old petroleum deposits from spills that we could see unexpected, surprising behaviors like methane or hydrogen sulfide explosions.

The other news from Hawaii is that in Honolulu again in the Mapunapuna Street area they are having water main breaks and that those seem to be related to a rise in groundwater as well.

What they are seeing is that in places where the groundwater is rising and falling with the tides, or seasonally, and it causes the backfill or sediment around water pipes to get wet and then dry and then wet and then dry, that that is causing settlement and that is creating displacement in the water line and that is leading to cracks and failures in the water lines. The water supply company is actually paying for research on groundwater in Honolulu and other parts of Hawaii.

With contaminated sites, I wanted to walk you through this briefly. Most of our contaminated sites in the Bay Area are capped. We did that because we wanted to keep the rain out. Essentially put an umbrella over the site and keep those contaminants high and dry and that would be a safe way to leave them in place if they can be left dry. But as groundwater is rising some of the contaminants are going to get wet and they may be mobilized.

In the number 1 on this graph it shows a situation where that orange color might represent an existing plume of contaminant that was already moving very slowly towards the Bay or towards a creek. As groundwater rises, that is that second dashed line, as the sea rises and the groundwater rises we could see that plume accelerate or even change direction. That is a dangerous situation to be in because we do not know where that plume would go if it changes direction exactly.

In number 2, that is a spot where the groundwater used to not touch the waste, the contaminant. But as it rises it would and then there is the potential for a new plume.

And in the third condition there is a capped site with contaminants that stay high and dry because they are above the new groundwater level.

So these are the three conditions that we are going to be looking for to try to understand how rising groundwater could cause new health and safety problems at contaminated sites and around them.

One of the problems a lot of people have not heard about is that volatile organic chemicals like benzene and other kinds of petroleum-related chemicals have a gas component. As the contaminant moves on the surface of the water table, if it enters the backfill around a water pipe or a sewer pipe or it enters the sewer pipe itself, the gas can enter buildings, workplaces, schools and homes. It can enter the building through cracks in the concrete slab foundation or cracked seals around plumbing pipes that enter the building or water pipes that enter the building.

It would be stopped by a P-trap, which is wet. But many older homes have dried out P-traps for sinks and cracked seals and for a toilet the P-trap is internal so the cracked seal at the base of the toilet would be the way that the gases would enter the house. These are cancer-causing gases and usually they are not monitored for in most homes, unlike carbon monoxide or smoke.

On the Richmond South Shoreline we have been looking. We have been trying to figure out what is going on there and what might happen as groundwater rises. And we are using the USGS' new data for projecting where the groundwater is going to be with a rise in sea level.

We are already seeing relationships between contaminants in soil and biological indicators like tumors in fish. There is an existing study by folks at UC Davis showing tumors in fish and inter-sex fish at Stege Marsh, which is between the Liquid Gold site, the Blair Landfill, the Zeneca site, and may also be receiving some contamination from the UC Berkeley site, the Richmond Field Station. But it is in the middle of several sites so no one has tracked yet where the contaminants are coming from or when they were placed there or how they got there. But there is a lot going on along the shoreline so it seems particularly concerning and worth looking at to try to understand what might be coming.

This is a King Tide looking back at that shoreline. Those trees, the eucalyptus trees are on the Richmond Field Station site that UC Berkeley owns. The big gray patchy zone is the Zeneca site and then there is a series of privately- owned buildings. To the right just off of the image is the Liquid Gold site. But you can see how high the tide comes up already.

These sewer lines surrounded the Zeneca site, I happen to have colored that one in an orange. They are also very close to a number of other contaminated sites, the UC Berkeley site, Liquid Gold, Blair Landfill. These are old sewer lines that may actually have cracks in them and could be allowing the very phenomenon that I mentioned where volatile organic chemicals can enter a pipe and travel uphill in the pipe and into buildings. Although I have no idea if that is happening. I am just saying these things are adjacent and this is the kind of condition we would be looking for around the Bay Area to try to identify places where further investigation should be done.

This is a drawing of the flow lines for contaminants. This is not to say these contaminants are moving at this time. But if they were to move this is where they would flow, along these lines.

I think it would be really helpful if public agencies like DTSC or the Water Board would make these kinds of visualizations so the public can see where contaminants may move to under today's groundwater conditions and then again with the rising sea level.

The geology of Richmond is really interesting and it shows these fingers of old riverbeds where a creek used to come down from the hills. In those old riverbeds gravels and sands are very well sorted, big stuff next to big stuff, small stuff next to small stuff. That is the kind of condition where water moves very quickly underground, in that kind of old riverbed condition. So it is likely that there is more water coming to those coastal sites underground than what we think is there.

That may explain why the groundwater surface at Zeneca and the Richmond Field Station is a little higher than what the USGS predicted it would be. Because they are receiving water from these fingers of old riverbeds that come down from the hills and that creates additional risk for how groundwater could mobilize contaminants as it rises.

I just wanted to close with a couple images. One of research that we are doing right now where we are identifying in the blue, areas where the US Geological Survey predicts that groundwater will rise by at least four inches. I said this is a game of inches and not of feet. There are more than 600 sites in the city of San Francisco where there is contamination in the soil of some kind. It may be residual, it may be very low concentration, and in other cases it may be more. As groundwater comes in contact with those sediments and contaminants we are going to see surprising changes in some cases.

Just to summarize, we are expecting groundwater to rise with sea level. It is already quite shallow, the groundwater, in much of the Bay Area close to the shoreline.

Coastal adaptation could alter local groundwater flows. For example, building a new horizontal levee or adding a lot of dredged sand to an area of the shoreline could cause a change in groundwater flow directions. We have seen that in the Netherlands.

Locally intense rain can affect contaminant movement in old riverbeds like what we see in Richmond.

And then the first impacts, this is really the most important thing I wanted to share, is that the first impacts happen underground where we cannot see them. That is why doing modeling and doing monitoring is so important so that we get on top of this as it occurs instead of waiting several years while people or a Bay habitat is exposed to these chemicals and no one knows. So I would recommend more monitoring.

And then that contaminants will behave differently when they get wet and they can be mobilized or produce gases that I talked about that can travel uphill into buildings.

And I would be happy to share the peer-reviewed literature that supports all of these points and make that available to you or your staff. With that I will stop. Thank you for inviting me.

Chair Wasserman acknowledged: Thank you very much for once again an enlightening presentation if a little bit scary but that is the intent.

Peggy, do we have any public comment?

Ms. Atwell stated: No hands raised, Chair.

Chair Wasserman continued: Questions from Commissioners?

Commissioner Butt chimed in: My city of Richmond was prominently featured in this presentation and it brings to mind a couple of questions. One is, you showed a map of the Richmond Shoreline and you showed maybe a dozen sites that were at risk and then you showed a map of San Francisco and Treasure Island that literally had hundreds of sites. So the question I have is, okay, assuming this is a problem, what do you do about it?

Most of these sites, a lot of them have already been remediated and cleared by the Water Board or DTSC; a lot of them have some kind of new infrastructure, buildings, roads, streets, whatever on top of them. What are the options?

Dr. Hill responded: I think in a perfect world we would remove the contaminants from the soil. Most of what we have done to treat contaminants all around the region, and really around the United States, has been to cap and then to do kind of spot treatments where we might inject a chemical or material into the groundwater to try to neutralize the contaminant.

Those spot treatments reduce the biggest concentrations but the concern is that there is a lot of residual there and that that residual could move around in ways that we do not understand yet.

I would recommend that people have studies done of these sites that are at risk. I understand that DTSC and the Water Board are moving in that direction of asking, for example, landfill sites, there is a proposed rule to ask them to plan for rising groundwater in addition to rising sea levels. That is the same thing I hope that DTSC and the Water Board are doing as they look at their contaminated sites with residual chemicals, or with large amounts of chemicals still present in some cases.

Commissioner Butt continued: Well, we have heard, I think even today, we have heard estimates about what it is going to cost to mitigate sea level rise and we are talking about surface stuff, not subsurface things and it is in the trillions of dollars, I think. I think it would be insightful to know what the cost is if you had all these underground sites.

And then the second question I had is, again, you featured Richmond prominently, and particularly the campus-based site, the Zeneca site. So in a situation like that, this is a very highly politically charged site. It has got multiple litigations going on. So there is kind of a choice there. There is a DTSC-approved remediation plan that involves both treatment of the contaminants like you talked about to make them less harmful and a cap. The alternative is to do nothing. So what is better?

Dr. Hill replied: I remember being on a committee for UC Berkeley as a faculty member where we were looking at preparing that site for an international campus and I believe there was a price tag of about 120-something million dollars to do a pretty complete cleanup. So it is not trillions of dollars, it is under 200 million for that particular combination of parcels.

I think that that is actually a realistic goal, to do cleanup on some of these coastal sites, especially given the amount of money that is coming through from the federal government and the state government to prepare for sea level rise.

The alternative being that these contaminants will not only find their way into the Bay and affect the ability for fish and shellfish to be healthy and reproduce, but also could affect new residents and old residents and workplaces and schools.



So it is not just Richmond. It is West Oakland. It is East Oakland. It is San Francisco. I do not mean to just raise an alarm and then tell you that there is nothing we can do about it. There are things we can do about it and we are just at the beginning of talking about what some of those things might be and I think the price tags can be quite realistic.

Commissioner Butt added: Well, I do not want to be argumentative and this will be my last question. But if the UC Berkeley Field Station and Zeneca are, as you say, sites that can be cleaned up for \$200 million and you have got literally hundreds of sites around the Bay Area, then you are talking trillions.

Dr. Hill stated: Well, I know that I myself did a paper on the cost of building a levee all around the Bay Area and it was in the more than 1 billion range to prepare for one meter of sea level rise. The tragedy there is that groundwater is going to rise on the inland side of such a levee anyway. So I would highly recommend that people think about dealing with groundwater before anybody commits money to levees because it is going to be something you have to deal with regardless of the levee.

Commissioner Butt continued: Okay, thank you.

Dr. Hill acknowledged: Thank you.

Commissioner Gunther commented: Thank you, Mr. Chairman. Thank you, Professor Hill. I have seen you give this presentation several different times over several different years and each time I hear it you are more eloquent and more focused and the story is getting worse. I am wondering a couple of things.

First of all, now you have got a lot more information about what is going on in terms of the interaction of the physics and the geology and the contamination, existing contamination. So we have a situation that seems primed for GIS analysis.

So first I just wondered, are you, and this is kind of maybe hard question for you to answer. But do you feel you are beginning to get your arms around the description of the threat or are there still more physical, geophysical aspects of this that you have yet to really examine?

Dr. Hill stated: I think we are getting our hands around where things are located in relation to a rising water table. So we will be able to release a map set about that in the next few weeks. We have been looking at it since Christmas last year. So I feel like that is getting better.

But I think what is surprising still and not yet mapped is the relationship to things like corrosion. As I have looked around at data about the Bay Area, the conditions are right for corrosion of metals in many, many parts of the Bay Area where there is high dissolved oxygen, a lot of chloride or salt from seawater.

I wish we were tracking with our maintenance folks where corrosion is occurring because I think it is going to become more of a problem than it already is and the conditions are ripe to see that happen. So that is probably the biggest concern. I worry about the pipes corroding, other metals underground, and the potential for rebar in concrete columns and structures to begin to corrode.

Once the rebar starts to rust it pops the concrete off of it. It starts to spall and fall away. That can cause structural weaknesses and in an earthquake region that could really be a big problem.

So as we are following the logic chain down the line, I think we are getting a little better at seeing where the problems might be happening, where there could be hotspots. But we are not yet collecting enough data about some of the physical changes that we expect should be happening.

Commissioner Gunther continued: It is my understanding that you are sharing a lot of your results with staff at the Water Board.

Dr. Hill agreed: That's right. We have been working closely with them and will work more closely because we are engaged in kind of parallel mapping efforts.

Dr. Gunther added: Yes. I think that it would be really, really valuable as you can build a joint narrative with the Water Board staff and that logic chain, because that is really what you are talking about. Some of these questions, like the fact that this problem is independent of the nature of the shoreline resilience you are creating, these kinds of things are really important to highlight early as we are now in this real planning stage around dealing with sea level rise impacts in the region.

This has the potential, as Mayor Butt was pointing out, with a number of sites just that you identified in a small section of the Bay Area shoreline, to be one of these enormous challenges that we are used to at the Water Board where we have hundreds and hundreds of problems to deal with and we have one or two staff members.

So we are going to have to get our heads around this as quickly as possible. And I think you are giving us a real opportunity to think, think strategically across a decade or two as we begin to prepare for this.

And I want to encourage you to share that with the Water Board staff and then to have you both share with the Water Board Members as soon as you are ready about, you guys should be thinking about some of these big questions because I think that will be really helpful.

Dr. Hill replied: Good point.

Chair Wasserman stated: Thank you, both.

Vice Chair Eisen was recognized: Thank you, Professor Hill, for your presentation. I think you have done as good a job as you could possibly do explaining an incredibly complex issue to a primarily lay audience.

You mentioned one of the things that you thought would be extraordinarily helpful is monitoring. One of the hats we wear at the BCDC is issuing permits to folks who want to develop along the edges of the Bay. Are you suggesting or have you thought about whether requiring permittees to engage in some kind of monitoring in connection with the permit they receive, would that be helpful or is that just not on a scale that would be worthwhile?

Dr. Hill explained: I think that could be very helpful because we do not understand yet enough about how the tidal influence extends inland on groundwater surfaces. We know that it does go up and down with the tides but not how much. We also do not know where the salt boundary is underground. And we do not know something called the redox potential. We do not know where the corrosion zone is which could also affect mobilization of metals. So I think it would be really helpful if there was more monitoring as part of living by the edge of the Bay.

Vice Chair Eisen acknowledged: Thank you so much.

Commissioner Kishimoto chimed in: Thank you, Professor Hill. I found your presentation actually quite chilling, actually. This might be a little aside but, I do not know how many of you watch *Stranger Things*, but I thought you kind of helped illuminate this upside down world that is under our feet and it is obviously a very, very important world. And I understand you are just beginning. You have been doing your research for a while but it is really beginning.

But I guess my question has to do with the implications for both basements and underground garages. And I am also thinking of all the vast pipes and utilities which go underground. I do not know if this is a question for you or just our staff but when is the right time to think about the implications for building standards and the standards which govern the placement of these utility pipes?

Dr. Hill replied: Yes, that is a really good question. We have our standards for all of this kind of work with the assumption that we are basically building cities in a kind of dry crust of land. Now that that is going to be wet I think we have to change our assumptions and probably start looking to other countries that do a good job of living in wet soil, like the Dutch, to try to understand what it costs for them to put pipes in. What materials are they using? How do they maintain basements below the water table?

I think we could learn a lot from looking at the way they have been living with that wet soil condition for a long time. Sometimes really well, sometimes not so well, but certainly they have done it before we are.

Commissioner Kishimoto acknowledged: Thank you.

Dr. Hill continued: I do think that as we put more and more basements into the ground in areas that are seeing a lot of development, or where development is very valuable and justifies doing an excavation for a basement, we are changing the directions of groundwater flow and even the directions of the way contaminant plumes may move.

So it does make a lot of sense for us to try to model in three dimensions what we have underground and start thinking about where the contaminants are moving and where the groundwater itself is.

Commissioner Kishimoto added: Yes. I just wanted to add that there is always going to be increased pumping costs and of course that pumped water goes somewhere as well.

Dr. Hill concurred: Right. And as soon as you pump you run the risk of accelerating the sinking of the land. As you dewater it you run the risk it could collapse. Most people think right away, oh, if I have high ground water I will just pump. But in fact that can make the problem worse because the land could sink.

Commissioner Kishimoto acknowledged: Thank you.

Commissioner Showalter commented: Hi. I wanted to thank you for the presentation. I started my career as a groundwater engineer and so I have always been very concerned about what happens or doesn't and our sort of knowledge of what is going on.

I particularly like the cartoon that you showed of the East Coast situation but I would just urge you to prepare one for the Bay Area. The Santa Clara Valley Water District or Valley Water has quite a few cartoons like that and you might enjoy using some of theirs which show a little bit more of the complexity of the situation. That might be good for subsequent, more complicated lectures.

But anyway, so thank you very much for your presentation and for bringing this up. I remember when I started my career in the late 1970s discussing the amount of water that was discharged to the Bay and did anybody know that? And nobody seemed to. I am not even sure now people do. But people were, that was sort of like a surprising question. It should not be a surprising question; it is something we should be considering and worrying about.

In addition to that I wanted to make a comment about the pipes and the corrosion of pipes and making sure that pipes stay intact to do the job that they are supposed to do, particularly our water supply pipes.

As public officials either on elected boards or as just interested voters, we need to always be supporting the cost of maintenance. Maintaining our water pipes, making sure that they are properly monitored, all of those things, they cost money. All of us should be supporting that because that is really kind of the best protection we have, I think, right now, of this is making sure that our sewer systems and our water systems are in good shape. So I just wanted to bring that up. It is not a sexy thing but I personally think it is really important and we never want to lose sight of that. So thank you and thank you for this presentation, it was great.

Dr. Hill agreed: Thank you. That is good to hear from a colleague in the groundwater world. I also wanted to pick up on what you were saying about maintenance and remind everyone that the people who have been doing that maintenance for a long time, they are experts in what they are seeing and where they are seeing it. So I hope that that might be a way to collect information inside organizations from the people who actually dig the trenches and look at the pipes.

Commissioner Showalter added: I know in Mountain View, for instance, we have had a problem with our wastewater salt content being too high for many years. They did a study of how to fix that and the main way to fix it was really to line the sewer pipe so that inflow from very shallow groundwater, which is sometimes saltwater, would be stopped. So yes, so looking at the specifics and locations is very important for all sorts of things.

Dr. Hill continued: And if we start to see building foundations corroding, columns that are part of foundations, we need to be very aware of the tendency to avoid maintaining that, or acknowledging that the repairs are going to be expensive. To not let that expense get in the way of being rational about what that means for the life of that building or the life of the pipe.

Commissioner Showalter cited an East Coast example: Like that condo in Florida.

Dr. Hill agreed: Exactly like that condo in Florida.

Commissioner Showalter continued: Thank you.

Dr. Hill acknowledged: Thank you.

Commissioner Beach was recognized: Thank you, Dr. Hill, for this presentation and your research on this important topic. Along the lines of what Commissioner Showalter was just mentioning, have you had any engagement from these critical infrastructure providers, sanitary districts, water supply providers? If so, have you considered utilizing some of their existing pipe monitoring systems or modifying those as kind of early warning systems for these rising groundwater issues?

Dr. Hill explained: I just have begun that conversation with a doctoral student who is working, I believe, with Mill Valley, Jim Jacobs, maybe Stephanie Moulton-Peters knows him. There are enough problems there to start with and begin to look at what this is all about. I think there are also a lot of problems that may be happening in San Mateo County in this area.

So that is where we are starting. I hope we will be able to learn a lot from talking to people who look at those pipes in Mill Valley about whether it is the salinity or the dissolved oxygen or something else that is the best predictor of the corrosion.

Commissioner Beach continued: Great, thank you. And then from your work with the Dutch have you put together sort of a compendium of ideas or what they are doing in terms of protecting their pipe infrastructure systems as opposed to maybe relocating everything?

Dr. Hill stated: I have talked to them and they say that they have less toxic ways and less expensive ways to protect their pipes than we use. I do not know if anybody here is Dutch but that is always what they say first is that they have a much better way to do everything. I am used to that. But I think that there may be technologies that they have that we should look at. And I have not yet partnered with a waste utility, wastewater utility or water supplier, but I hope that those utilities might be interested in this topic.

Commissioner Beach offered kudos: Great. Well thanks again for your work and I appreciate the presentation.

Dr. Hill acknowledged: Yes, good questions.

Commissioner Moulton-Peters was recognized: Thank you. Hello, Dr. Hill, very good to see you again. Thank you for the shout-out to Mill Valley and thank you also for your work in Marin City as well. I do know Jim Jacobs and I look forward to connecting with you and with him on the work in Mill Valley and assisting you any way I can.

Dr. Hill noted: Yes, I think it may be some of the smaller sewage districts that actually have bigger problems relative to their budgets. So I think that would be a good place to start.

Commissioner Moulton-Peters agreed: That is usually the way it is, the smaller ones with the bigger problems, so anyway, happy to assist.

Dr. Hill acknowledged: Thanks.

Chair Wasserman commented: I do not see any other hands. I have a couple of comments myself.

One is, you have talked about monitoring but I have sort of a tangent question about that. If these VOCs in fact escape and cause problems, A, which of those problems are likely to be relatively quickly noticed? If you have just got vapors coming in through the toilet that is a potentially slow problem, you do not notice it until someone gets sick and maybe or maybe not correctly diagnosed. But are there others that perhaps are likely to be noticed more easily? And if so, where do they get reported?

Dr. Hill shared some observations: Well, certainly spot flooding gets noticed more easily, like at Veterans Court or Marina Boulevard in San Leandro, and that is something we probably should be recording. That is probably something that may be seen as just part of high tide flooding but in fact it is a really important precursor to seeing other groundwater problems.

Marin City is another place where we see that at high tide. I think that if we collected information on that, that would be helpful to identify where the groundwater is so shallow and backing up in the sewer pipes that it is emerging.

Other than that, I think that it is possible for us to guess which buildings might be affected by carcinogen gases in sewer pipes and then to install monitoring devices in some percentage of those buildings. Like the Purple Air monitors but monitors designed specifically to pick up organic chemicals. So we could make a guess, install monitors and start checking.

We could also install humidity monitors because mold is going to be one of the big impacts of wetter air coming up into buildings. That is an easy kind of monitor to have, a humidity monitor.

The humidity monitor and the spot flooding, those are low-hanging fruit, and then installing some of the more expensive organic chemical monitoring devices in the right places. I think that is a doable next level step.

Chair Wasserman continued: Thank you, that sort of bridges to the question of who 'we' is in those or who 'we' may be in those instances.

The suggestion I want to make, partly comment and partly suggestion, many of the efforts that you have described and should happen here are pretty far beyond our jurisdiction and capability.

However, clearly, it is important for us to hear this because this has effects on our jurisdiction and is also an important educational piece as we communicate out to the public what the dangers and consequences of rising sea levels are. But I think it would be useful for us to have some or maybe it is just further discussions, certainly with the Water District and maybe with others, and to sort of talk about what some of those actions and monitoring courses might be. And as a result of those, at the appropriate time to come back to report to the Commission as a follow-up to this.

Dr. Hill stated: I think that would be interesting. I have also wondered how the extension of the saline groundwater below the land might affect BCDC's jurisdiction but I guess that is a fantasy I have, that maybe you can follow that salt line inland.

Chair Wasserman responded: That is opening a cap on a very interesting stream of discussions. Yes. But you are also correct, in the Strategic Plan context there is that issue of what, in fact, is or should be the scope of our jurisdiction. Okay. I join in the chorus of thanks for your presentation, informative, eloquent as always.

With that I think we will close this matter and move on to the final matter.

**11. Interns Briefing: What Goes on at BCDC?** Chair Wasserman stated: Item 11 is a briefing by our undergraduate interns on their experience at BCDC. Executive Director Goldzband will introduce the presentations.

Executive Director Goldzband addressed the Commission: Thank you, Chair Wasserman. I want to remind you all that last year BCDC for the first time instituted an undergraduate internship program that was designed specifically to try to encourage a diverse group of interns who have shown some interest in coastal zone management issues, even if they did not know they were coastal zone management issues at the time, to intern at BCDC for eight to ten weeks, specifically working with a manager and a team to perform real tasks.

My bet is that each one of you as I look at you has been an intern and we know that there is nothing worse as an intern than to be bored. Our direction to our managers and our staff was, keep them busy, do not let them be bored and have them do real work. They were able to do so last year. They were able to do so this year.

This year we had the delightful circumstance of not only having our second annual group of undergraduate interns, and we hired three, but also to have a fourth who was a COAST Intern, which is a program of the CSU system.

So with that I will let them introduce themselves and have them regale you with what they have accomplished and then listen to you as you exhort me to hire them. I do not know who is starting but go ahead.

Intern Sayli Limaye spoke: Hi, everyone. Thank you so much for coming to the Commission meeting today and we want to welcome you to our 2022 Summer Intern presentation.

Sadly, we are approaching the last day of our internship but I know I can speak for all of us when I say that we have had such a great time here and that we have grown so much during our ten weeks.

We are super excited to show you all what we have been working on so let's just get started and move on to some introductions.

Intern Lee chimed in: Hi, everyone. I am Justina Lee. I am entering my fourth year at Stanford where I major in Earth Systems on the Human Environmental Systems track and minor in Data Science.

Intern Limaye continued: Hi, everyone. I am Sayli and I am going into my third year at UC San Diego where I am majoring in Ecology, Behavior and Evolution with a binary in Environmental Systems.

Intern Stonkus introduced herself: Hi, everyone. My name is Amelia Stonkus and I am a rising fourth year at Cal Poly San Luis Obispo. I am double majoring in Biological Sciences and Environmental Earth and Soil Sciences.

Intern Yu continued: Hello, my name is Gilbert Yu and similar to Amelia I am actually a recent Cal Poly graduate and I majored in Environmental Management and Protection with a minor in Biological Sciences and I will be going to a master's program at Santa Barbara in the fall.

Ms. Lee shared the following: I had the privilege of working with the Racial Equity Team for the past ten weeks under the direction of Yuri.

I had a number of tasks that were assigned to me throughout the internship, the first being to create a document summarizing the Racial Equity Team's work from 2020 until now.

With one of the next big steps for the Team being the upcoming Racial Equity Workshop happening later this year this was a great opportunity for me to understand the process that has been building up to it since BCDC staff has been involved in racial equity work for several years now with GARE training, and as you may know, implementing the Bay Plan's Environmental Justice and Social Equity Amendment, which was adopted in 2019.

The Racial Equity Team was formed in order to develop the Agency's Racial Equity Action Plan and since 2020 they have been making progress researching, brainstorming and working internally.

My job was to go through past documents, presentations and files to compile a brief but comprehensive summary of the Team's activities. This gives me a chance to get up to speed with the Team's past work before diving in, while also creating a useful reference document for people who join or work with the team later, including the consultants for the upcoming Racial Equity Workshop.

My second task was to create a Resource Guide and Glossary to be eventually included in the Plan's index. I looked through other existing plans and researched online to gather resources that may be useful to reference. And throughout this process important terms that I came across were included in the glossary document.

On the right here is just a screenshot of the navigation pane of the document which shows how the resource guide was organized and what was included. Because the plan is still in development our sequence was a bit out of order in that the resource guide was created prior to finalizing our actions, but hopefully it still be a helpful addition to the final plan that points to other tools, organizations and government resources that are dedicated to racial equity.

And my final task was to participate in the action development for the Plan. More specifically, I was involved in drafting actions that had to do with communication, partnerships and community trust. This was a really exciting part of the process to be involved in and I am looking forward to seeing how it all pans out.

With that I will pass it over to Sayli.

Ms. Limaye addressed the Commission: Hi, everyone. This summer I had the chance to work with the Sediment Team, with Brenda. I worked on four main projects which were a flood control factsheet, working with ArcGIS to update the dredging footprint's web map, writing an episode approval, and then finally getting to write a permit.

My first project was this fact sheet. Working on this was a very fun and creative first project at BCDC. Creating this fact sheet was interesting because it is supposed to be targeted at the general public who does not know anything about sediment management which is why it was such a great introduction to this topic for me since this is the first thing I worked on. It also helped me understand the importance of sediment management in the Bay.



After that I worked on updating some dredging footprints in the BCDC ArcGIS web map. I mostly QA/QC-ed footprints as well as updating the Unknown category of footprints. For this task I had to find the permit that corresponded to each unknown dredging footprint and then fill in any missing details like the project name or the permit number onto the web map.

In the end I finished QA/QC-ing the dredging footprints that were done by last year's summer intern and I also updated all of the unknown footprints that had that permit information available.

By doing this I was able to become really familiar with dredging permits, just because I was going through so many of them to find information to fill in the missing blanks for these footprints.

So after reading through all these permits I got the chance to write a few and the first thing that I wrote was an episode approval for the Port of Oakland. I went through the whole approval process from the beginning starting by analyzing their dredge operation plan as well as their previous episodes. Then I got to write the DOP approval letter for Episodes 16 and 17.

And then after this I worked on this permit which I am actually finishing up right now. I thought this was a really great end to my ten weeks here at BCDC because I got to be involved in the permit process from the very beginning to almost the end which was first reading the application, writing the 30 day letter, and then communicating with the applicant when we had any problems or we were missing any information, and finally writing the permit itself.

By doing this I was able to really become very familiar with the permitting process while also learning a lot about the Bay since I was going through and analyzing various documents such as the Bay Plan in order to write this permit.

Again, this was a really great final task for me and I am excited to see this project move forward.

And with that I will pass it over to Amelia.

Ms. Stonkus shared her experiences: Hello, everyone. I had the pleasure of working as a COAST Intern. As Larry said, COAST is the umbrella organization for marine and coastal activities within the California State University system. I worked with the Adapting to Rising Tides Program under the supervision of Todd Hallenbeck and Dan Hossfeld.

My first and main task that I worked on throughout my internship was the developing of a methodology for sea level rise adaptation cost estimates. I developed cost estimates for 30 unique habitat and adaptation project combinations such as restoration in tidal marshes and riprap revetments and beaches.

This task was very research intensive. I read many reports on completed and planned adaptation projects. In doing this I prioritized project cost data collection from EcoAtlas reflecting the first real use of the Shoreline Adaptation Project or SAP map effort that you may have heard about from Todd Hallenbeck during your May Commission meeting. Plan Bay Area 2050 as well as my own literary research to obtain these cost estimates.

For example, here is a table for horizontal levees that draws from different sources to obtain an average low, median and high cost estimate. This included some back-of-the-envelope calculations to get these per unit costs. That could definitely get a little messy but were very satisfying to achieve.

My next major task was to prepare and give a presentation to the Technical Advisory Group, known as the TAG, on my methodology approach for obtaining these cost estimates. The Technical Advisory Group originated from Financing the Future to help lend their expertise to have a more in-depth analysis of cost adaptation estimates.

The prep for this included the development of a memo to go to the TAG Team prior to the exact meeting. The memo included the steps I took to collect, calculate and organize my findings. The memo went through a few rounds of revisions with help from MTC staff at the Framework Technical Advisory meetings before it was officially sent out.

In the meeting I received a lot of great feedback regarding prioritizing high-cost estimates and perhaps revisiting certain approaches. The most valuable aspect of the meeting was definitely having members from organizations such as SFEI and BayCAN reach out and offer their project cost data as well as offer to connect us to county focus groups.

From there I revised the data spreadsheet and created a guide to the 30-plus tab spreadsheet and I am currently awaiting feedback on that data.

My third major task was researching and writing a lit review on rising groundwater. As Dr. Hill just shared in the previous briefing, rising sea levels are affecting groundwater tables, threatening much of the infrastructure around the Bay Area. My main priority was in researching rising groundwater inundation as a result of sea level rise on a global scale so I spent time researching contamination hazards, threats to infrastructure, adaptation measures and models to assess these risk factors due to rising groundwater.

I got to dive into some really fascinating studies done globally such as adaptation measures being taken in New Zealand and the effects on wastewater infrastructure in Honolulu. In doing this, I collaborated with Dan Hossfeld and Anna Rasmussen on the Adapting to Rising Tides Team to categorize and evaluate my findings, as well as write summaries for these categorizations that were included in the lit review.

And with that I will pass it on to Gilbert.

Mr. Yu commented: I also worked with Todd Hallenbeck in the GIS Team and I worked on the GIS map for BCDC, also known as BayRAT. You can see in the picture there, that is a mix of permits, a mix of where eelgrass is, a mix of public access and jurisdictional determinations.

My first task was this umbrella of GIS data management. This included putting permits in, new permits that we got into the BayRAT. This would include updating staff jurisdictional determinations, adding new jurisdictional determinations that were found, as well as adding public access.

So as an example of maybe public access that needs to be added would be like the San Francisco Bay Trail which is the picture on the left.

On the right, that is an example of an actual staff jurisdiction that was removed based on a new determination that we received. That is on the right. That is for Stevens Creek.

And then the last one is just a picture of a new permit, a new project. I think it is under Boat Works was the company and it is this new kind of residential area. For that specific area we put a permit placement down there as well as added public access that is being checked over by our permit analysts right now.

Task two; I call it paper file hunter. I am a paper file hunter. I also assisted with ADA compliance.

I think I had a very unique internship in which that I was in the office quite often throughout my time during my internship. I would go in like once a week, unlike many other interns that may not have had to do that.

Essentially I went into the file room for BCDC, looked for jurisdictional determinations in paper files and created accessible PDFs to be uploaded to the BCDC Digital Library. And with this information I was able to create and update those jurisdictional determinations that she saw there.

An example of an ADA compliant thing that I have done is actually the slideshow for this that we are watching right now. That is going to be uploaded. I did the ADA compliance for that to make it accessible for people. So I hope I did a good job on it.

Task three is essentially; I did a permit workflow update. This includes any Excel sheets or public access sheets or any sort of Excel sheets and data management that I had to do to try to clean up and organize stuff. But the big thing was the permanent workforce update which is, as you can see on the left, which is essentially like an instruction manual to use BayRAT and how to use GIS as well as maybe like the area to do PDF accessibility and all sorts of stuff. It is just to make it so that anyone else who is coming in who is new to GIS or new to BCDC knows what is going on. That is what I did along with other sorts of data management of Excel sheets and stuff. So I just included that together.

Ms. Limaye continued: Now that we have gone over some of our individual experiences we wanted to share some of the highlights that we had as a group.

One highlight that we all shared was the staff picnic that we had. It was just really great to meet everyone in person, especially since most of us, except for Gilbert, had been working almost completely virtually up to that point. It was really great to be able to connect with the other staff that we had not really seen in any of our meetings or to see the people that we had been meeting with in person and actually get to talk to them.

Ms. Lee added: A highlight from my internship experience was the Racial Equity Media Club where once a month all of BCDC staff is invited to come together and discuss a selected piece of media. I got to attend one and recently had the opportunity to host a session as well.

I chose the article about the proposed Sites Reservoir in Sacramento Valley and the opposition to the project from indigenous tribes. It ended up being a really thoughtful and educational conversation and I really appreciated all of the perspectives and the knowledge that people brought.

Ms. Stonkus chimed in: One of my highlights was attending informational webinars such as the one on groundwater rise. A lot of the webinars tied closely with our individual project topics. So for me, I got to hear about scientific research that was very useful when writing my lit review. This was a great way to hear from professionals in a variety of fields about really relevant environmental issues in the Bay Area.

Ms. Limaye continued: Another highlight for me was the site visits that I got to go on with the Sediment Team because up until the visits I had never really seen a dredge or any dredge equipment in person, only in pictures or in the writing in the permits that I had been reading. It was really great to be able to see this equipment, actually an active dredge in person, and it really helped me visualize what I have been working on for the whole summer.

Mr. Yu stated: My highlight was that unlike many of the other interns I did visit the office quite often and I would see a couple of staff members here and there. I would get to talk to them and they helped me out and I want to thank them again for doing that. It was great talking to them.

Also a part of that is visiting SF because I probably would not really visit SF unless I had a reason to.

Ms. Stonkus commented: Throughout our internship we have been able to advance our professional development. We were able to talk and meet with professionals from a variety of backgrounds through interviews.

Larry arranged four of these interviews with Moy Moreno-Rivera, the Assistant Secretary for Equity and Environmental Justice; Mark Gold, the Executive Director of Ocean Protection Council and the Deputy Secretary for Ocean and Coastal Policy at California Natural Resources Agency; Sophie Wenzlau, the Deputy Attorney General at California Department of Justice; and Eddie Ahn, the Executive Director at Brightline and Commissioner for MTC, BCDC and the San Francisco Commission on the Environment.

We interns arranged weekly meetings to research each professional and curate a list of questions. Our conversations were very informative and genuine and gave us new perspectives on exploring careers and approaching our academic endeavors.

Additionally, we participated in one-on-one meetings with Larry to enhance our résumés and craft an elevator speech, which is a 45 second pitch that does not sound too rehearsed or too unprofessional. Our new newly revamped résumés and ready-to-go speeches have prepared us for the workforce and to take advantage of any opportunities to come our way.

Ms. Lee continued: As BCDC's interns this summer we learned a lot through the program and wanted to briefly emphasize what we saw as some of the biggest strengths.

So first, of course, was the supportive staff. People were so helpful and friendly and welcoming and made all of our experiences really positive.

We also appreciated the opportunity to sit in and participate in a variety of meetings including ones for teams and projects that we may not have directly been involved with.

The program allowed for a lot of flexibility as well as opportunities for us interns to collaborate and get to know one another.

Of course, the exposure to policy and government will be so valuable for us as we continue on our own academic and professional paths.

Mr. Yu spoke: These are three suggestions that we compiled together as part of the program.

One was something pretty big, having a records management-focused internship. As someone who had worked really closely with records management I can see that there is a lot of struggle with a lot of the workload. I thought that it would be really cool to get some intern to help with records management. To get a feel for creating a new management system for the records area within BCDC as well as work directly under the person to get more experience.

A second thing was that the permit data can become more accurate by increasing locational accuracy. That is essentially just having a latitude and longitude added to the permit rather than just a description of where the site is so that it is much clearer as to where the permit is and where the permit needs to be especially if there's multiple permits in a very like specific area and so there is no overlap and it is not super confusing.

And then the third, I think this is the smallest one, is simply that when there's like multiple tasks, it would just be much nicer if we knew which tasks need to be prioritized as high importance, because sometimes that was not the most clearest. That's it.

Ms. Stonkus added: We wanted to give a huge thanks to all the staff at BCDC, especially our supervisors, Larry and Anu. Everyone has been so welcoming and invested in our growth as we enter our professional careers. Our experience here has been very invaluable through the people we have met and the conversations we have had.

In the future we will not hesitate to reach out to all of you if we have any questions or are in need any advice. But also never hesitate to reach out to us if you are in need of a youthful perspective or think we could assist in any way possible.

Thank you all for listening to our presentation on all we have accomplished and learned at our time here at BCDC. Lastly, we wanted to open the floor to any questions you may have regarding our projects or experience at BCDC.

Chair Wasserman chimed in: Thank you very, very much. Questions from Commissioners?

Commissioner Ahn was recognized: I want to say I really did enjoy meeting you in the chat that we had. If you are ever in San Francisco please let me know. I am more than happy to give you a tour of not just the Bay Area Metro Center but of surrounding communities, South of Market, the Tenderloin and beyond.

Yes, I know, the Tenderloin is not necessarily what people think of as a tourist destination spot but I do have a lot of care for it because of the work I do through my nonprofit Brightline.

Overall, I am very appreciative of Gilbert's work in particular in coming into the office. Going through actually more complicated paper compliance work as a high school intern and college intern myself, a lot of the paperwork I did was essentially organizing paper clips quite literally in a closet.

So you are doing more complex work for our agency. And this is also props to our supervisors of our interns for giving them substantive assignments. I have confidence that you are going to go on to bigger and better things. And who knows, I may be working for you in the near future.

Chair Wasserman acknowledged: Thank you, Eddie. Other questions or comments from Commissioners?

I certainly want to echo Eddie's comments. I would not be surprised if Larry wishes to say something. I thank you both for allowing us to end this meeting on an upbeat note, which is always nice. And to recognize the importance of this kind of program, particularly when as you clearly did, you are doing substantive work.

I remember, this is a while ago, in my college career I did an internship with San Francisco Neighborhood Legal Assistance Foundation that educated me and gave me a very significant background in working with lawyers and thinking like a lawyer.

I appreciate also, again, the substantive work that you did because in many instances they are things that have been languishing. I also appreciate your comments at the end about ways we can improve it and focus more, which I think very much affects getting things that need to be done, done.

Do you have any remarks, sir?

Executive Director Goldzband commented: Just a couple real short ones. First of all, it is always really, really difficult, always, being this is the second time we have done it. Trying to actually select our interns because we had something like 50 or so applications and my bet is that 40 of them would have been stars. We chose basically three plus Amelia and they clearly are stars. So we really appreciate that.

We think it is very, very important to continue this program. We think that it provides yet another way for students who are undergrads to try to really try to figure out where they are going next and where they are going in ten years. If we can be part of that process then I think we have done a real good job.

The second-to-last thing I would say is that the interns have made one person at BCDC incredibly happy and that being Angela Noble who is our Records Manager, who probably will print out that one page from your presentation and pass it around the entirety of BCDC making sure that we have some kind of intern to help her next summer. So we appreciate that.

And then finally I just want to say that as a former intern, and I know many of you are former interns; that is how I got my start just in terms of understanding what I wanted to do. And I have a terrific memory of drafting then-Mayor Pete Wilson's testimony in front of the Honorable Cecil Andrus, the Secretary of the Interior, arguing strenuously back in 1979 for the umpteenth time in opposition to offshore oil drilling on the California coast. So that was what, 21 plus 22, 43 years ago, yes, 43 years ago and I still have that memory.

I hope that you all have the same kind of memory when you are an old person like I am and that you work from now to really work hard in the conservation field if that is really what gets your interest so that in a few years we will be reading about you. We could not have really a happier outcome. So thank you for all of your hard work.

Chair Wasserman asked: Are there any public comments?

Ms. Atwell noted: There are not. Thank you.

12. **Adjournment.** Upon motion by Commissioner Ahn, seconded by Commissioner Addiego, the Commission meeting was adjourned at 3:32 p.m.